

**DEVICE AND METHOD FOR NONINVASIVE CONTINUOUS
DETERMINATION OF PHYSIOLOGIC CHARACTERISTICS**

ABSTRACT

The invention comprises devices for noninvasively monitoring physiological characteristics of a patient's blood. Generally, probes having radiation emitters and detectors are used to determine absorbance of blood within the patient's tissue to determine various blood parameters. The device also has either a position sensor for determining the position of the probe with respect to the patient's heart or a movement generator for altering the position of the probe with respect to the patient's heart. The invention also comprises methods for noninvasively monitoring the physiological characteristics. In one embodiment, induced positional changes create differential hydrostatic pressures to facilitate measurement of blood parameters by absorbance. In a second embodiment, delays in pulse arrival times in coupled organs or members on opposite sides of the body are measured to determine cardiac output. The two methods are such that they can advantageously be used together.